

**BY ORDER OF THE
SECRETARY OF THE AIR FORCE**

AIR FORCE MANUAL 11-301

22 JULY 2016



Flying Operations

***AIRCREW FLIGHT EQUIPMENT (AFE)
OPERATIONS IN A CHEMICAL,
BIOLOGICAL, RADIOLOGICAL, NUCLEAR
(CBRN) ENVIRONMENT COMPLIANCE
WITH THIS PUBLICATION IS MANDATORY***

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This manual implements AFD 11-3, *Aircrew Flight Equipment*, AFI 11-301 Volume 1, *Aircrew Flight Equipment (AFE) Program*, AFI 11-301 Volume 3, *Aircrew Flight Equipment (AFE) Contingency Operations*, and establishes Aircrew Flight Equipment (AFE) objectives, responsibilities, and operations in support of contingencies in a Chemical, Biological, Radiological, and Nuclear (CBRN) environment. It incorporates Aircrew Contamination Control Area (ACCA) operations and general guidance on processing for the Aircrew Eye and Respiratory Protection (AERP), Chemical Biological Oxygen (CBO) mask, and Ground Crew Equipment (GCE) worn by AFE personnel in support of AFE operations. This publication applies to all Major Commands (MAJCOM) and the Air National Guard (ANG), which must comply with these requirements for Aircrew Flight Equipment and applicable Air Force Technical Orders (TO). (T-1) This publication may be supplemented at any level, but all direct supplements must be routed for coordination prior to certification and approval to the OPR of this publication, HQ USAF/A3XI. (T-1) Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain of command. The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See Table 1.1 for a description of the authorities associated with the Tier numbers. Submit requests for waivers in accordance with (IAW) paragraph 1.3 of this instruction. Ensure that all records created as a result of processes prescribed in this publication are maintained IAW Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records

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Chapter 1

OVERVIEW

1.1. General. This instruction provides guidance to protect and sustain the lives of aircrew members and AFE personnel during counter CBRN operations, and is complemented by AFI 11-301, Volume 3, *Aircrew Flight Equipment Contingency Operations*.

1.1.1. Increased mobility-demands and bare base deployments require greater attention be given to multi-unit cohesiveness and team effort. Sharing collective resources mandates the need for standardizing equipment, training, and procedures. It is likely that units will be responsible for processing aircrew not assigned to them, (e.g. NATO Nations, other DOD agencies, etc.). For the purpose of this manual, an aircrew is defined as anyone (non-ground crew personnel) who arrives at the entrance of the ACCA needing assistance. A sample of applicable aircrew (not all-inclusive) would be aircrew/pilots of Fighter, Airlift, Rotary aircraft (to include foreign partners), Aeromedical, Battlefield Airmen, and Distinguished personnel.

1.1.2. AFE personnel must be ready and capable of assisting any uninjured aircrew who arrive at their shelter or ACCA (injured aircrew will be directed to the hospital). (T-1) Creative resourcefulness is necessary for operating within an ever-changing theater of operation.

1.2. Delegation of Authority. Pursuant to Headquarters Air Force Mission Directive 1-54, Deputy Chief of Staff, Operations, HQ USAF/A3X delegates to HQ USAF/A3XI career field management responsibilities for Air Force Specialty Codes (AFSC) 1P0XX, *Aircrew Flight Equipment (AFE)*. In this capacity, HQ USAF/A3XI will establish policy guidance from the Air Staff, which addresses all related resources and training. Additionally, HQ USAF/A3XI will provide technical/functional input to Air Force Personnel Center Civilian Personnel officials regarding General Schedule (GS) 1601/1670 and Wage Grade (WG) 4818 career field management matters. HQ USAF/A3X also delegates to HQ USAF/A3XI the responsibility of oversight and standardization of unit level training programs supporting upgrade training. (T-1)

1.3. Supplements and Waivers.

1.3.1. MAJCOMs and Field Operating Agency (FOA) Functional Managers (FM) may supplement this instruction for their unique programs IAW AFI 33-360. Supplements must be routed for coordination prior to certification and approval to the OPR of this publication, HQ USAF/A3XI, 1480 Air Force Pentagon, Washington DC 20330-1480. (T-1)

1.3.2. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain of command. The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, and T-3") number following the compliance statement. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the Publication OPR for non-tiered compliance items. (T-1)

1.3.2.1. If approved, waivers remain in effect for time needed to correct the problem causing the waiver requirement, or otherwise authorized by AFI 33-360. The approving agency may cancel the waiver in writing if issues change the basic intent or requirement for the waiver.

Chapter 2

RESPONSIBILITIES

2.1. Shared and Additional Responsibilities. See AFI 11-301, Volume 1, *Aircrew Flight Equipment (AFE) Program*, AFI 11-301, Volume 2, *Management and Configuration Requirements for Aircrew Flight Equipment (AFE)*, AFI 11-301, Volume 3, *Aircrew Flight Equipment (AFE) Contingency Deployed Operations*, and this Manual.

2.2. HQ USAF/A3X (Director of Future Operations) through HQ USAF/A3XI (Total Force Aircrew Management Integration Division).

2.2.1. Coordinate with HQ AF/IMSC (Air Force Installation and Mission Support Center) for funding, manpower, exercise, equipment, supplies, modernization and training, (these functions may be delegated to a subordinate organization/agency as appropriate). Example of training is the annual operational evaluation exercise of the 9ALCW AFE ACBRN Response UTC/ACCA operations and AFE participation in the North Atlantic Treaty Organization's (NATO) annual ACBRN Standardization Agreement (STANAG) evaluation and Combined Interoperability CBRN Defense in Air Operations Exercise (also known as Exercise TOXIC TRIP).

2.3. MAJCOMs and ANG:

2.3.1. Establish command specific supplement, if required, and route to HQ USAF/A3XI.

2.3.1.1. Review Operation Plans (OPLANS), AFI 10-201, *Force Readiness Reporting*, and AFI 10-401, *Air Force Operations Planning and Execution* requirements.

2.3.1.2. Will coordinate with lead MAJCOM to obtain training equipment/systems to support non-operational AFE units for ACCA training. (T-1)

2.3.1.3. Determine the number of personnel required to run the ACCA for the duration of the operation or exercise IAW para 4.7.13.2.

2.3.1.4. Budget for AFE attendees and participation in all ACBRN events and forward to AFLCMC/WNUW for inclusion in the annual CBRN budget.

2.3.2. Headquarters Air Combat Command (HQ ACC) is the designated lead MAJCOM for all ACBRN related issues, and shall:

2.3.2.1. Host an annual exercise to validate skills, operation, and availability of the 9ALCW UTC. (T-2)

2.3.2.2. Forecast, publish and budget for six (minimum) unit visits throughout the year, as a snapshot to validate programs and determine efficiency of training. (T-2) Visits may align with a Unit Effectiveness Inspection (UEI), Nuclear Operational Readiness Inspection (NORI) or Staff Assistance Visit (SAV).

2.3.2.3. Through HQ USAFE-AFAFRICA AFE FAM, coordinate budget inputs and participation in the annual North Atlantic Treaty Organization (NATO) Combined Interoperability CBRN Defense in Air Operations Exercise, also known as "Exercise TOXIC TRIP." (T-1)

2.3.2.4. Coordinate with the AFE CBRN Liaison (AFLCMC/WNUW) to establish budget(s), program policy, plans/procedures, equipment, and training standards. (T-1)

2.4. Squadron Commanders:

2.4.1. Shall ensure compliance with this instruction, and keep AFE personnel abreast of the existing and forthcoming contingencies and commitments. (T-2)

2.4.2. Identify equipment shortages resulting in total mission impairment through the reporting process IAW AFI 10-201. (T-2)

2.4.3. Work closely with Civil Engineering (CE) Emergency Management (EM) section(s) when reviewing base support plans for deployable operations. (T-2)

2.5. Aircrew Responsibilities:

2.5.1. Possess required ACBRN equipment items necessary to support wartime operations prior to deploying, IAW AOR Special Instructions (SPINS), reporting instructions, and AFI 11-301 Volume 2. (T-2)

2.5.2. Securely store all ACBRN equipment to prevent damage or theft while in their possession. Ensure storage location is in a cool dry place out of direct sunlight and not in an area susceptible to excessive heat build-up, (e.g. vehicle trunk). (T-2)

2.5.3. Understand purpose, limitations, and service life associated with all ACBRN equipment. (T-2)

2.5.4. Maintain currency in AFE Continuation Training (AFECT) events IAW AFI 11-301, Volume 1 and appropriate AFI 11-2MDS-series. (T-2)

2.5.5. Perform preflight inspections on assigned ACBRN equipment as required by aircraft manuals, T.O.s, higher headquarters directives and local policies. (T-2)

2.5.6. Ensure ACBRN equipment is stored within the AFE section while not in use, to include training and contingency/operational mission support. (T-2) This ensures equipment is properly stored and available for periodic inspections.

2.6. Aircrew Flight Equipment Superintendent (AFES):

2.6.1. AFES will coordinate with installation Civil Engineering (CE)/Emergency Management (EM) personnel regarding ACCA location, set-up, and operations, to include (trash disposal, electricity, water, bleach, and medical supply support as per AFMAN 10-2503, *Operations in a Chemical, Biological, Radiological, Nuclear and High-Yield Explosive (CBRNE) Environment*. (T-2)

2.6.1.1. Installation CE/EM provides assistance such as; ACCA set-up, location (distance and direction), sectors, and wind conditions.

Chapter 3

CBRN DEFENSE

3.1. Chemical Warfare. The United States is a signatory to the Chemical Weapons Convention (CWC), which prohibits the development, production, stockpiling, and use of chemical weapons. The convention does allow quantities of chemical warfare materials for research purposes. In order to deny an enemy any battlefield advantage from the use of chemical weapons, US Air Forces shall be capable of conducting and sustaining essential operations in a chemical warfare agent (CWA) contaminated environment. (T-1)

3.1.1. General. CWAs are classified based upon persistency and physiological effects. Persistent, semi-persistent, and non-persistent describes the duration effectiveness of CWAs. Physiological classification describes chemical agents according to their effect on the body. The six major types are nerve, blood, blister, choking, psychochemical, and irritant.

3.1.2. Persistent and Semi-Persistent Agents. These agents are used to impede the use of critical terrain, channelize the attacking force, or contaminate materiel. Persistent and semi-persistent agents produce casualties (immediate or delayed) when the vapors are inhaled or the agent contacts the skin. Additionally, they contaminate materiel and degrade unit efficiency. Persistent and semi-persistent agents force personnel into higher levels of mission-oriented protective posture (MOPP), which results in degraded operational capabilities and decreased morale. Examples of persistent and semi-persistent agents include HD (distilled mustard), VX, TGD (thickened GD [soman]), GF (cyclosarin), and GB (sarin).

3.1.3. Delivery. CWAs may be disseminated using mortars, artillery, rockets, mines, aircraft, aerosol generators, missiles, and covertly by special operations forces or terrorists.

3.2. Biological Warfare (BW). The U.S. will not use biological agents, including toxins, regardless of source or manner of production, or other methods of biological warfare under any circumstances. The U.S. will strictly limit its biological and toxin research program to defensive measures, such as production of vaccines, antidotes, treatment, and protective equipment. U.S. policy is in accordance with the 1925 Geneva Protocol and the 1972 Biological Weapons Convention, both of which the U.S. has ratified. However, U.S. Air Forces must be prepared to mitigate an enemy's use of biological warfare agents (BWAs). (T-0)

3.2.1. General. BWAs are classified in three general categories: pathogens (microorganisms), toxins, and bio-regulators/modulators. Many BWAs are more toxic than chemical agents are and may cause casualties at lower dose levels. They can be spread more easily over a wide area and are effective at lower exposure levels. Incubation periods vary from hours to weeks. Some agents kill, while others incapacitate. Some agents are contagious, while others are not. Vaccinations, prophylaxis, and medical treatment after sickness are effective only for some agents, not all.

3.2.2. Differences between Biological and Chemical Weapons. Biological and Chemical Weapons attacks differ in several ways. Chemical agents are all manufactured, non-living poisons, whereas BWAs are either microorganisms or chemicals produced by biological organisms. Biological agents are generally more toxic than chemical agents are and require smaller amounts to cause illness or injury. It is difficult to detect and identify the large number of biological agents. Most agents do not create a surface contamination hazard or a

post dispersal-aerosolizing problem. The exceptions are those disseminated as spores. Although biological and chemical defenses are similar, significant differences influence the planning and preparation for BW.

3.2.2.1. Wide Area Coverage. A biological weapon can create an aerosol-generated hazardous environment over a much larger area than a chemical weapon with the same amount of agent (by weight) due to the high toxicity of biological agents.

3.2.2.2. No Off-Gassing. The only evaporation from pathogens is water. Although toxins are organic chemicals, their vapor pressures are so low that they are unable to create a vapor hazard. The high efficiency particulate air (HEPA) filters found in collective protection systems are effective in providing protection against these biological agents.

3.2.2.3. Numerous Potential Agents. Because of the numerous categories of potential biological agents, pathogens and toxins cannot be easily grouped for developing a common detection technology.

3.3. Radiological Particles. Significant amounts of radioactive material may be deposited on surfaces after the use of a nuclear weapon, a Radiological Dispersal Device (RDD) (a “dirty bomb” is a common term for an RDD) or after a nuclear reactor malfunction. Military operations in these contaminated areas will require an evaluation of the potential hazards and may require protective actions and contamination mitigation. Operations could result in military personnel receiving radiation exposure or contact with particulate contamination, which would require processing through an ACCA. (T-0)

3.3.1. Nuclear radiation. Nuclear radiation is characterized as initial or residual. The initial radiation is produced within one minute of the event. Residual radiation, also referred to as delayed fallout, occurs over a period. Fallout is composed of radioactive particles from the bomb and material from the surface of the earth that is carried into the air by the explosion. The larger particles return to the earth within 24 hours, but the smaller dust particles may take several months to fall. For the purposes of AFE and ACCA processes/procedures, the “R” and the “N” in CBRN represent the same threat.

3.4. Decontamination versus Contamination Mitigation. The terms “decontamination” and “decontaminate” carry an expectation by an aircrew. For instance, if a technician tells an aircrew to “decontaminate their gloves by wiping them with a bleach soaked towelette”, the aircrew would, after wiping their hands as told, expect their gloves to now be “decontaminated”. While bleach will actually neutralize hazardous agents, the amount of time it takes (which differs based on the make-up of the contaminated material) is not conducive to AFE, ACCA and flying operations. Additionally, detection capabilities do not detect to low enough levels to ensure safety of aircrew. Finally, the agents used to neutralize hazardous material could have negative effects on the flight worthiness of the aircrew equipment. These factors have led to the need to use the term “contamination mitigation” in lieu of the term “decontaminate”. As AFE professionals working in an ACCA, we mitigate the negative effects of human contact with hazardous material.

3.5. Contamination Mitigation. In an effort to mitigate particle cross contamination and reduce risk, aircrew and flight equipment must be handled appropriately. Mitigation procedures

will not degrade the performance of personnel, but may have negative effects on the flight worthiness of flight equipment. (T-1)

3.6. Types of Decontaminates. There are three general types of decontaminants—natural, standard, and miscellaneous. There are also developmental decontaminants that are being tested and evaluated.

3.6.1. Natural Decontaminants. There are multiple natural decontaminates, the following information discusses weathering, winds, and temperature. Weathering gradually decomposes Chemical Biological (CB) agents by aeration, hydrolysis, and evaporation. The time necessary for decontamination by weathering depends on the persistency of the agent, its composition, climatic conditions, and the type of surface. Although weathering is the easiest method of decontamination, persistency of an agent is difficult to predict. Therefore, mission deadlines, weather conditions, or hazards to unprotected personnel may require the use of a faster method of decontamination. Additionally, winds rapidly disperse the vapors of the chemical agents while high temperatures speed up the change of state for liquid vapor (evaporation) and hasten the dispersion of chemical agents in the air.

3.6.2. Standard Chemical Decontaminants. There are multiple chemical decontaminants; the following information discusses Super Tropical Bleach (STB), High Test Bleach (HTB), and Household bleach. Refer to AFTTP (I) 3-2.60, CBRN Decontamination: Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination; Appendix C for mixing requirements.

3.6.2.1. STB is a decontaminating agent for most Chemical Warfare (CW) agents. STB is a mixture of chlorinated lime and calcium oxide in a white powder form. STB, in a dissolving solution, may be substituted for household bleach. When manufactured, it contains 30 percent available chlorine. Because of this chlorine content, a protective mask and gloves should be worn when handling STB. STB decomposes slowly in storage; this decomposition is easily recognized by the chlorine odor. STB may cause serious degradation of electronic equipment, it is corrosive to most metals, and it is injurious to most fabrics. Mixing STB with water facilitates its distribution.

3.6.2.2. High-Test Bleach (HTB) or High Test Hypochlorite (HTH). HTH is a bleach material typically found in granular or tablet form, containing a minimum of 70 percent calcium hypochlorite. The compound contains a higher percentage of chlorine than STB and is more corrosive. Therefore, HTH cannot be used for the decontamination of individuals and personal protective material unless diluted/dissolved to safe solution level.

3.6.2.3. Household Bleach. Household bleach is 2 to 6 percent sodium hypochlorite in water. ACCA operations require 5 percent chlorine solution, which allows household bleach to be used. Read product labels to ensure exact percentage of bleach. (T-2)

NOTE – Units that comply with an Aircraft Radiological Recovery Plan established for their base are exempt from the radiological aspects of this manual.

Chapter 4

AIRCREW CBRN OPERATIONS

4.1. CBRN Defined. Operations that include CBRN materials, either individually or in combination. Collectively known as weapons of mass destruction (WMD), CBRN replaces "Nuclear, Biological, or Chemical (NBC)" when used in reference to operations or incidents limited to WMD issues. Toxic Industrial Chemicals or Toxic Industrial Materials (TIC/TIM) and Hazardous Materials (HAZMAT) are considered part of the "C" in "CBRN".

4.2. ACBRN Training. AFE AFECTIs will utilize lesson plans from LL04 to train aircrew members on all aspects of ACBRN. (T-1)

4.2.1. All deployable AFE personnel will be trained in ACCA operation, management, and aircrew processing procedures using the ACCA Station Attendant Master Lesson Plan from the USAF AFE SharePoint®. All AFE units (to include non-operational units) should possess or have access to at least one set of training ACBRN equipment and a processing system. Units will coordinate procurement of assets with their owing MAJCOM. (T-2)

4.2.2. Maintenance and Ground Support Personnel Training. Sortie-generating specialists require specific training on launch and recovery of aircrew in a CBRN environment. AFE will provide "Train the Trainer" method training to these individuals only when tasked, using guidelines and procedures established in section 4.7.11 of this instruction. It is the responsibility of Maintenance personnel to request training. (T-2)

4.3. Equipment. Ensure the full Basis of Issue (BOI) for ACBRN operations is available for each aircrew member deployable to a CBRN threat area. Aircrew will be sized, fitted and issued required equipment; refer to AFI 11-301 V2 for BOI and options for ACBRN equipment. (T-2)

4.3.1. Units will comply with theater-specific reporting instructions for ACBRN requirements. (T-2)

4.3.2. Unit AFE personnel will maintain individual aircrew sizing information in the Flight Equipment Records Management System (FERMS) or equivalent. (T-2)

4.4. Medical Concerns. AFE supervisors must be aware of and ready to combat the physiological and psychological effects of ground and aircrew personnel operating in CBRN Individual Protective Equipment (IPE). Awareness of these concerns and individual familiarity with protective equipment are essential toward optimizing performance.

4.4.1. Physiological Effects. Heat stress can be a significant thermal burden for personnel wearing CBRN equipment. Heat stress can influence human cognitive activity, which could be critical in an ACCA or flying situation, requiring efficient and error-free performance. Personnel must adapt to wearing CBRN equipment and adhere to work/rest cycles and fluid replacement guidelines as outlined in AFTTP 3-4, *Airman's Manual*. (T-2)

4.4.2. Psychological Effects. Supervisors must always be aware of the psychological effects personnel experience when they are wearing protective clothing. These effects may include claustrophobia, apprehension, paranoia, disorientation, distorted bodily sensations, hallucinations, confusion, and panic. Frequent training in IPE reinforces familiarization and confidence in proper donning procedures. IPE training should also reduce the adverse

physical and psychological effects associated with repeated or prolonged wearing of IPE. (T-2)

4.5. Safety. ACBRN defense clothing is designed to absorb and contain liquid and vapor agents. Therefore, the safety of individuals wearing ACBRN defense clothing is influenced by the following factors: Exposure levels, ambient temperature, wind, humidity, moisture, inclement weather, physical exertion, anxiety, stress, and individual health.

4.5.1. Exposure Levels. The level of contamination encountered by aircrew members is determined by the concentration, type of agent or toxin, and exposure time. Although direct contact with CBRN hazards represents the greatest danger to aircrew and AFE personnel, vapor exposure is more likely.

4.5.2. Aircrew are strictly prohibited from conducting contamination mitigation procedures on other aircrew members or assisting other aircrew members with doffing of dirty ensembles unless specifically directed by the attendant while in the processing line. (T-2)

4.6. Aircrew Sheltering. Sheltering is divided into two distinct categories: Collective Protective (COLPRO) sheltering and non-protective sheltering. Aircrew and AFE personnel may be exposed to one or more of these types of sheltering during operations, depending on the location.

4.6.1. COLPRO Sheltering. Over-pressurization keeps contaminants out of the shelter to provide a Toxic Free Area (TFA) for personnel to rest and prepare for operations. In some cases, the ACCA processing line is incorporated into these structures, in other cases the ACCA processing line will “end” at the entrance to one of these facilities. These shelters are most often used in areas or environments where sheltering must be provided in the attack or threat area. They may also be used to provide sheltering for key operations in the threat area such as a functional workstation, AFE, a battle staff, or a flight operations section. Types include Survivable Collective Protection System (SCPS), Joint Expeditionary Collective Protection (JECP), Transportable Collective Protection System (TCPS), interconnecting KMU-450, and the Simplified Collective Protection Equipment (SCPE). The following information should be helpful in recognizing the options that might be available to personnel during various operations.

4.6.1.1. SCPS. These hardened shelters use 65-cm thick walls, are buried, and have been reinforced with steel and earthen coverings to provide protection in an actual threat area. They have been designed to offer various levels of protection against 500-kg bombs at 2 meters and direct hits from artillery and bombardment. These structures, like other over-pressurized facilities, have capacity limitations and cannot be relocated during times of conflict.

4.6.1.2. TCPS/JECP. This system integrates over-pressurized bladders, filters, and blowers into pre-existing tents and structures. It allows individuals the ability to safely process into these tents by providing over-pressurization of the structure as well as airlock entryways. However, it does not provide hardened protection. The advantage of this system, over a buried structure, is its mobility.

4.6.1.3. SCPE. Like the TCPS, SCPE (M2OE1/XM28) is an inflatable bladder that converts a pre-existing structure, room, or tent into a contamination free area. With its air lock entryway, the SCPE like other collective protection systems has been designed to

allow clean entry processing. While large enough for over-pressurizing a small room or battle staff quarters, it is not typically large enough to house or accommodate sleeping arrangements for more than a few people. Benefits associated with collective protection shelters are their ability to maintain operations within the contaminated threat area, their close proximity to duty stations, and the minimized need for transporting personnel out of the threat area. The over-pressurized shelter system with the best processing rate is the TCPS. TCPS are capable of processing a maximum of 12 aircrew members per hour. Because these facilities or systems have inadequate processing capabilities and shortfalls, AFE personnel must have alternative processing solutions available. (T-2)

4.6.1.4. Non-Protective Sheltering. Does not provide protection against liquid or vapor chemical agent threats. However, overhead protection lessens exposure to liquid agents, while not protective against vapors, is considered a form of chemical agent protective sheltering. Additionally, shelters providing protection from the natural elements increases the effectiveness of both personnel and ensembles in a chemical threat environment. Therefore, while these facilities are considered a non-protective shelter, they do enhance CBRN operations. When personnel are transported away from the threat area and processed using open-air procedures, a pressurized system is not necessary. Coordinating an ACCA under bare base conditions must be done in unanimity with other deployment considerations. The coordination, planning, and establishment of an open-air ACCA are discussed in detail later in this chapter. The location of non-pressurized sheltering is also important. Shelters, rest stations, and toxic free work areas should not be attached or located within 200 yards of any ACCA. The establishment and location of these shelters should prevent them from being moved during changes in local wind direction or being exposed to contaminant build-up from any ACCA/CCA. (T-2)

4.6.1.5. Open-Air Processing. The deployed location will be divided into sectors or zones to aid in identifying ground attacks locations and chemical/biological response. When a portion of the base becomes contaminated, the Wing leadership will determine which sector/zone will remain in MOPP 4 and which sectors/zones can be reduced in MOPP. EM personnel are responsible for determining the location of the Contamination Control Area (CCA) based on the information gathered after the attack. The Emergency Operations Center (EOC) or CBRN Control Center is responsible for notifying the ACCA Manager after an attack and to direct the team to the current location of the CCA. Upon notification from the EOC, the ACCA Manager will notify all AFE sections outside of the affected area to dispatch to the ACCA location (as required). Factors such as attack location and ACCA location will influence AFE personnel response times. (T-2)

4.6.1.5.1. The ACCA is designed to be mobile and collocated ideally near the CCA and medical treatment facility. Operating under typical constraints, the ACCA shall be assembled and ready to process aircrew within one hour of notification. (T-2)
NOTE: Assembly time is dependent upon location of ACCA, relative to the proximity of responding AFE personnel.

4.6.1.5.2. The ACCA will be covered or stored indoors when not in use, to prevent contamination of equipment during attacks. (T-2)

4.6.1.5.3. ACCA station components will be systematically packed in container, in order to aid attendants in assembly and response time. (T-2)

4.6.1.6. Hardened Facilities. Due to space availability of hardened facilities, ACCA operations accomplished in a hardened facility should follow the intent of the ACCA placards, but may differ slightly. The AFES at hardened facility locations will establish location specific procedures as required. (T-2)

4.7. ACCA Staffing and Personnel Actions. AFE personnel shall ensure work/rest cycles are planned and implemented to necessitate sustained CBRN operations IAW AFTTP 3-4, *Airman's Manual*. AFE personnel will refer to this manual for guidance on wear times, proper work/rest requirements, and fluid replacement guidelines. (T-2)

4.7.1. Consider how stress, fatigue, physical condition, sleep, exposure, fear, dehydration, and injury, may affect your ability to sustain operations.

4.7.2. Ensure technician accountability and availability. (T-2)

4.7.3. Ensure "clean" areas (determined by EM) are established and ready to support operations. These include over-pressurized shelters and off site TFAs. (T-2)

4.7.4. Establish expedient means to disperse resources to ACCAs, shelters, and other mission essential locations. Consider pre-positioning items based on coordination with EM.

4.7.5. Coordinate with Intelligence, CBRN Control Center Emergency Support Function (ESF-5), and deployed commanders to determine ACBRN equipment wear requirements for sortie support.

4.7.6. Ensure re-supply procedures are established and copies of deployed asset inventories, to include aircrew sizing information, are available. (T-2)

4.7.7. Ensure "bug-out" location and procedures are identified. (T-2)

4.7.7.1. Ensure squadron leadership and all AFE personnel are aware of alternate location and required actions. During the "bug-out" planning stage, supervisors must consider mission support requirements, mission types and availability of personnel as major factors to continue mission support. Disbursement of equipment is an effective way to prepare for post bug-out operations. (T-2)

4.7.8. Ensure coordination is established with Transportation personnel (AFSC 2T1X1) to shuttle aircrew during ACCA operations. (T-2)

4.7.9. Ensure lines of communication are established between the EOC, Unit Control Center (UCC), ACCA Manager, collective facilities and other ACCA team members. (T-2)

4.7.10. Report all damage and contamination, IAW AFPAM 10-219 Volume 3, *Civil Engineer Contingency Response and Recovery Procedures*, to squadron UCC or EOC personnel. Include information on damage to AFE equipment, facilities, and personnel.

4.7.11. Movement of aircrew during Post-Attack (Dispersal Period). Mission essential launch and recovery will resume as directed by the UCC (MISSION ESSENTIAL ONLY). (T-2)

4.7.11.1. If covered vehicles are not available, aircrew will remain in shelters or covered areas until conditions permit transportation. If this is not possible, aircrew will wear the plastic overcape and overboots while transiting open areas. The aircrew overcape will

only be worn during the liquid dispersal period when aircrew movement requires them to move to/through an area that does not provide overhead protection. (T-2)

4.7.11.2. If worn, the plastic overboots and overcapas will not be removed until the aircrew member is ready to enter the aircraft, building or vehicle. The unique entry and exit procedures for each aircraft will determine the specific point at which these items will be removed. Use of the overcape for an extended period may contribute to heat stress, increased carbon dioxide or static buildup, and may lead to decreased aircrew performance. Constant surveillance of personnel wearing the overcape is important. (T-2)

4.7.11.3. The procedures assume maintenance personnel have prepped the ladder, canopy, doors, hatches and seal areas for aircrew entry.

4.7.11.4. Aircrew member will remove overcape. (T-2)

4.7.11.5. Crew chief secures the overcape for proper disposal.

4.7.11.6. Crew chief will remove overboot by cutting down back of overboot; the unprotected foot will be placed on the aircraft's boarding ladder/step and not the ground. (T-2)

4.7.11.7. Crew chief will then secure the overboot for disposal, repeat with other foot. (T-2)

4.7.11.8. Reverse the above procedures after the aircraft has landed to aid the pilot/aircrew with safely exiting the aircraft.

4.7.11.9. Specific procedures must be established between AFE and maintenance to ensure overstock/resupply of overboots and overcapas are on hand for continued operations. (T-2) Additionally, supplies of overboots, overcapas, and batteries may need to be placed in locations where crewmembers will be located. Placement of these assets in these locations will ensure the crewmembers have replacements if items are damaged, lost, etc. Ensure these considerations are part of all local exercises. (T-2)

4.7.11.10. Transportation personnel (AFSC 2T1X1) are responsible for transporting aircrew to/from aircraft. Aircrew will be transported via covered vehicles to the maximum extent possible. Transporting personnel will mitigate contamination by patting down exposed interior/exterior of vehicle after aircrew exit. To aid in off gassing, transport aircrew with windows open to the maximum extent possible (venting method). (T-2)

4.7.11.11. If possible, aircraft canopies, hatches, and doors should remain closed until immediately prior to aircrew entry. They will be closed immediately after entry or strap-in and remain closed during all ground operations. Limiting personnel on the aircraft is a key element of contamination avoidance. (T-2)

4.7.12. Contamination Control. After the attack, the most likely means of exposure comes from physical contact with objects that were exposed during the attack. All personnel will remain aware of the possible presence of contamination and avoid unnecessary contact with any surface. (T-2)

4.7.13. ACCA Manager directs the preparation of the ACCA for aircrew personnel and equipment, as directed by the EOC. The manager will use Attachment 3 to guide ACCA operations and the following paragraphs for required manpower to process aircrew members through the ACCA. **NOTE:** Utilize AFI 11-301 Volume 3 for specific UTC tasking guidance and total UTC manpower requirements to sustain ACBRN operations. (T-2)

4.7.13.1. The ACCA Manager has overall authority for the entire ACCA; however, in an ideal situation they will appoint one of the ACCA attendants to oversee the Vapor Hazard Area (VHA) while the manager is focused on the Contact Hazard Area (CHA). This approach will provide the maximum level of supervisory attention to each critical part of the ACCA. (T-2)

4.7.13.2. For optimum aircrew processing, the ACCA is designed for eleven AFE personnel (nine AFE Station Attendants, one ACCA Manager, and one VHA Supervisor). This manpower standard is based on processing one aircrew at a time for each station, and is necessary to support the dynamic nature of ACCA operations.

4.7.13.2.1. If the requirement exists to process two aircrew simultaneously at each station, the manning requirement would double at each station.

4.7.14. The ACCA Manager will report start and completion of ACCA processing to UCC or EOC (as required/capable). In addition, the ACCA Manager will be prepared to report additional information as requested (suspected contamination, names of aircrew, etc.). (T-2)

4.7.15. Coordinate security of the ACCA with Security Forces as directed by the base support plan/EM. Communicate any threat to security personnel, EOC and the UCC.

4.7.16. Placards for ACCA operations can be obtained from the USAF AFE SharePoint®.

Chapter 5

AIRCREW CONTAMINATION CONTROL AREA (ACCA) OPERATIONS

5.1. Purpose. The guidance contained in this chapter identifies coordination and procedures for ACCA Managers as well as general ACCA information. The primary focus of AFE is to generate aircrew to conduct operations in a CBRN environment. AFE procedures include recognizing vulnerabilities and opportunities to protect personnel, working safely and effectively in a contaminated environment, and understanding and operating an ACCA. Accomplish preparatory and planning actions to mitigate the impact of a CBRN environment on the AFE function. Identify preparatory actions by performing an operating location vulnerability analysis. This analysis should consider the types and effectiveness of available shelters, possible time required in shelters, and equipment needs.

5.1.1. The purpose of the ACCA is to provide contamination mitigation and provisions for processing aircrew into a TFA. **NOTE:** Units shall conduct/manage ACCA operations until an appointed 9ALCW UTC arrives. The AFE Superintendent shall maintain control of the 9ALCW UTC personnel and equipment. (T-2)

5.2. ACCA.

5.2.1. Aircrew. All personnel performing flight duties wearing ACBRN equipment are aircrew. There are many specialties/configurations associated with flight duties; including Helicopter, Battlefield Airmen, Fighter, Mobility Platform Aircrew, and Aeromedical. Some of these configurations do include use of the Joint Service Lightweight Integrated Suit Technology (JSLIST) and Joint Service General Purpose Mask (JSGPM). The procedures are written to support any configuration that may show up for processing at the ACCA.

5.2.1.1. Sister Services. All personnel performing flight duties in ACBRN equipment, as mentioned above, from other US services and departments are also considered aircrew.

5.2.1.2. Foreign Military Aircrew. AFE shall be prepared to process all of the specialties/configurations listed above from partnered foreign militaries. Although the configurations used in foreign militaries are quite different from DoD equipment, annual NATO Exercise TOXIC TRIP has proven AFE procedures, as written, can support any of these configurations. (T-2)

5.2.1.3. AFE. AFE personnel will ensure plans are developed with CE/EM to determine how to process ACCA Manager/s and attendants. Plans may evolve based on the decision to destroy, repack, or leave the ACCA assembled. (T-2)

5.2.1.4. Mission Requirements. ACCA is for the processing of aircrew only; all other personnel will be processed through the CCA by CE/EM. (T-2)

5.2.2. The ACCA Manager will obtain as much information from outside agencies as possible to establish an effective and efficient ACCA process and re-supply. The ACCA manager will work closely with EM to ensure support agencies are prepared to assist ACCA operations to solidify the success of the ACCA. (T-2)

5.2.3. For open air ACCAs, a minimum spacing requirement of 10 yards between stations will be maintained at all times. However, ACCA Managers may consult with EM personnel

regarding spacing adjustments when location or number of aircrew processing impact operational capacity. (T-2)

5.2.4. ACCA processing. The ACCA placards are designed to provide attendants with the general intent of associated steps, as opposed to specific steps for every configuration. Such methodology places emphasis on the attendant's ability to manage each station effectively through an increased awareness of the flight equipment they may encounter (e.g. three glove system versus some foreign one glove systems). Attendants are encouraged to communicate with aircrew and shelter manager when processing unfamiliar flight equipment.

5.2.5. Contact Hazard Area (CHA). Is a defined room, space, or area within the boundary of the ACCA to identify and contain contact hazards. Use absorbent materials to contain the chemical, biological, or radiological hazard and use chlorine solutions to mitigate the chemical or biological agents.

5.2.6. CHA/VHA Transition Point. The location within the ACCA where aircrew moves from the CHA into the VHA. At this transition point, an identifiable demarcation line shall be used to differentiate the CHA and VHA. (T-2)

5.2.7. Vapor Hazard Area (VHA). Is where only the possibility of a vapor or inhalation hazard exists. The purpose of a VHA is to separate all airborne hazards before they process into a TFA. Over-pressurized systems use vapor locks to prevent off-gassing hazards from getting any further into the shelter. In open-air processing, the VHA is a large open space. This assists in reducing vapors. The further a crewmember travels and the larger the volume of air flow in the VHA, the greater the contamination diminishing effect.

5.2.8. TFA. This area should not contain a hazard. While operating in this area, there is no need for respirators or protective clothing. In open-air processing, however, locate the TFA main personnel rest area outside the defined boundary of the ACCA and at least 200 yards away. Shifting wind direction or the accumulation of contaminated materials, (potential hazard effects from off-gassing or agent re-suspension), or the noise associated with general ACCA operations, necessitates the need for locating the TFA away from the ACCA in an open-air environment. With over-pressurized buildings, the TFA will be determined based on the system. (T-2)

5.2.8.1. Establishing the TFA. Deployed Superintendents shall have awareness of the TFA location, through coordination with EM and wing leadership; to ensure processes are established with Transportation personnel (AFSC 2T1X1) for aircrew exiting the ACCA. (T-2)

5.2.9. Entry and Exit Control Points (ECP). The ACCA entry point is located at Station 1, and the exit point is located at Station 9, thus ensuring an effective traffic flow. Establish ECP procedures to document attendance, exposure, and historical aspects of ACCA operations.

5.3. ACCA Planning. EOC shall establish open-air ACCA and TFA facilities/processes through EM and wing leadership coordination, with adequate lead-time prior to a CBRNE threat. AFE personnel shall be effectively prepared for rapid repositioning and multi-place operations. (T-2)

5.3.1. All aircrew arriving at the ACCA are presumed contaminated, and will be processed thru the ACCA. (T-2)

5.3.2. Aircrew returning from a contaminated area shall notify commanders of possible contamination. Commanders shall then advise AFE personnel to initiate ACCA decontamination procedures. (T-2)

5.3.3. Rapidly changing conditions, alarm postures, mission requirements, CBRN threat analysis, Intelligence information, 24-hour a day operations, inspection and maintenance workloads, will all affect AFE's ability to plan and sustain ACCA operations.

5.3.4. Aircrew Preparation. Prior to mission step, aircrew must be briefed that all items in their possession will be surrendered and may be destroyed upon processing through an ACCA. This can be mitigated by leaving flight materials (i.e., maps, data transfer case, etc.) in the aircraft. Classified material will be separately stored at ACCA until the appropriate personnel retrieve them. (T-2)

5.4. ACCA Manager. The Manager is the focal point for conducting ACCA operations, and shall be the most qualified AFE individual per shift. The ACCA Manager shall coordinate with EM and the CBRN Control Center concerning ACCA operations. For responsibilities, see **Attachment 2, ACCA Managers Actions.** (T-2)

5.4.1. Duties included, but are not limited to, site location selection and management, AFE technician Station assignments, ensuring ACCA is fully supplied, monitoring work/rest cycles, up channeling status to Chain of Command (CoC), and assisting attendants as necessary. The Manager shall also coordinate waste disposal with EM, medical aid with first responders and classified material handling with Intelligence. (T-2)

5.4.2. ACCA Manager duty location. Within ideal manning conditions, there will be a Manager assigned to both the CHA and VHA. During solo Manager Operations, the Manager will remain in the CHA, and communicate with the VHA attendant at the demarcation line (station 6). (T-2)

5.4.3. Processing classified material. The ACCA Manager shall pre-coordinate with Intel to determine the extent and level of possible classified materials, and how to mitigate the amount brought to the ACCA. When possible, the classified material owners shall retrieve it at the ACCA ECP or at the aircraft. The Manager shall not prevent aircrew arriving with classified material from processing. Station 1 attendant shall place the material in a lockable container (at the appropriate step) and secure the container until the owner can take positive control. (T-2)

5.4.4. Handling sick/contaminated personnel. First Responders will be notified upon initial signs of suspected personnel. First Aid/Buddy Care shall be administered while First Responders are in route. Pre-coordination with medical personnel on the process of transferring contaminated personnel will expedite their medical care. (T-2)

5.4.5. Handling contaminated/possibly contaminated flight equipment. Since detection capabilities are limited, all processed items will be treated as contaminated. Coordination with EM is imperative to determine procedures to segregate items (e.g. munitions, classified, combustible) in a holding area for disposal. AFE shall develop plans to replace discarded flight equipment to meet mission requirements. (T-2)

5.4.6. After the last aircrew processes through the ACCA, the ACCA Manager will:

5.4.6.1. Ensure classified materials have been collected and relinquished to the owning agency. (T-2)

5.4.6.2. Through coordinated efforts with EM, determine whether the ACCA will be packed back into storage for future use, or identified as contaminated waste and destroyed. (T-2)

5.4.6.3. Ensure plans are developed with EM to determine how to process ACCA Manager and attendants. Plans may evolve based on the decision to destroy, repack, or leave the ACCA assembled. (T-2)

5.5. General ACCA Processing Procedures.

5.5.1. Detailed training and procedures are located on the USAF AFE SharePoint®. Ensure guidance is incorporated into Technician Training prior to ACCA set-up in order to provide adequate and effective processing. (T-2)

5.5.2. Processing placards. Units may print placards in color with large font to assist readability. Placards provide guidance for the attendant and aircrew during processing, while aiding foreign aircrew with the general intent of each station.

5.5.2.1. Pictograms serve as a quick reference to identify equipment removed at each station and are invaluable during multi-national ACCA efforts. During multi-national combat operations, AFE technicians cannot assume they will be tasked to only assist US personnel.

5.5.3. SOCKS, CHEMICAL PROTECTIVE (500 EA. PER ROLL) NSN 8415-01-040-3169 or equivalent. These socks (also known as tube socks) will be required for use throughout the ACCA. (T-2)

5.5.3.1. At a minimum, socks will be placed on the aircrew's feet when their boot is removed. However, socks may be used to protect hands if the aircrew's glove comes off, or may be used by the attendant as a barrier between their hands and a contaminated item. (T-2)

Chapter 6

AIRCREW ACTIONS AND CBRN REQUIREMENTS

6.1. Aircrew Mission Preparation Activities in a CBRN Environment. The protection of Aircrew members and their aircraft is of utmost importance during attack situations. The enemy's use of CBRN agents has the potential to degrade flight operations unless aircraft maintenance and aircrew members are well trained. Effective contamination avoidance measures are implemented, and the installation has proactive attack response procedures in place regarding the protection of aircraft.

6.1.1. Use of ACBRN ensemble is directed by the installation Command and Control (C2) based on the MOPP. As required, ACBRN ensemble is either worn or available in the D-Bag, depending on the current threat. The ACBRN ensemble provides limited protection against liquid agent. ACBRN ensemble is only intended for flying operations. Aircrew will wear the GCE during non-flying operations (to include aircrew not on the flying schedule, performing pre-flight duties for stepping aircrew). Aircrew will be aware of CCA and ACCA processing procedures for both ACBRN ensemble and GCE. (T-2)

6.1.2. It is the responsibility of the aircrew to deploy with their GCE for use in the AOR. AFE shall not be responsible for maintaining GCE issued to aircrew. (T-2)

6.2. ACBRN Ensembles.

6.2.1. AFI 11-301 Volume 2 establishes the basis-of-issue for the different types of ACBRN ensemble authorized/issued/maintained to USAF aircrew.

6.2.2. Sister & Foreign Services ACBRN Ensembles. AFE must be prepared to accept and safely process all US aircrew/operators. Although there may be many different ensembles across the services, the contamination mitigation techniques in this manual are sufficient to address all of them. (T-2)

6.3. ACBRN Equipment Donning Procedures. ACBRN ensembles should be donned IAW applicable guidance for the specific type of equipment. A donning procedures guide can be found at the USAF AFE SharePoint® site. This guide is provided to aid units in developing a donning checklist. Information found in technical orders takes precedence. **NOTE:** The Common Access Card (CAC) must be placed UNDER the CB protective layer. This will aid in keeping it clean. (T-2)

6.3.1. While typical donning procedures use common AFE terms (i.e., AERP), units may tailor donning procedures to meet the needs of the aircrew (e.g. don the M50/MBU-13/P in lieu of the AERP mask).

6.3.2. The donning guide assumes the aircrew member is wearing their personal socks, underwear, and t-shirt.

6.3.3. References to the CWU-66/P or Coverall are made to indicate the CB protective layer. If JPACE/JSLIST (or equivalent) is used, apply the procedures similarly.

6.3.4. To provide maximum protection, the intent of the donning order given should be followed.

6.3.5. The use of CWU-43/P and CWU-44/P aramid underwear (or equivalent authorized underwear) is authorized during extremely cold weather and may be used in lieu of the cotton underwear.

6.4. Personal Contamination Mitigation.

6.4.1. Personal Contamination Mitigation is vital. Accomplish personal contamination mitigation as soon as contamination is present or suspected. Take appropriate response actions, to include accomplishing self-aid and buddy care checks for IPE/AFE contamination. Use M295 decontamination kits (or equivalent) as required.

6.4.2. When aircrew identify contamination is present, they must immediately accomplish personal decontamination procedures, report the presence of contamination to the UCC or EOC, and plan to process through an ACCA when appropriate. (T-2)

JOHN W. RAYMOND, Lt Gen, USAF
Deputy Chief of Staff, Operations

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 10-201, *Force Readiness Reporting*, 03 March 2016

AFI 10-401, *Air Force Operations Planning and Execution*, 07 December 2006

AFI 11-301, Volume 1, *Aircrew Flight Equipment (AFE) Program*, 25 February 2009, Change 1

AFI 11-301, Volume 2, *Maintenance and Configuration Requirements for Aircrew Flight Equipment (AFE)*, 20 December 2013

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AFI 33-360, *Publications and Forms Management*, 01 December 2015

AFPAM 10-219 Volume 3, *Civil Engineer Contingency Response and Recovery Procedures*, 7 May 2015

AFPD 11-3, *Aircrew Flight Equipment (AFE)*, 24 September 2013

AFMAN 10-2503, *Operations in a Chemical, Biological, Radiological, Nuclear, and High-Yield Explosive (CBRNE) Environment*, 07 July 2011

AFMAN 33-363, *Management of Records*, 01 March 2008

AFTTP 3-4, *Airman's Manual*, 19 May 2015

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*.

Abbreviations and Acronyms

ACCA—Aircrew Contamination Control Area

ACBRN—Aircrew Chemical, Biological, Radiological, and Nuclear

AERP—Aircrew Eye/Respiratory Protection

AF—Air Force

AFE—Aircrew Flight Equipment

AFES—Aircrew Flight Equipment Superintendent

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFPAM—Air Force Pamphlet

AFPD—Air Force Policy Directive

AFSC—Air Force Specialty Code

AFTO—Air Force Technical Order

AFTTP—Air Force Tactics, Techniques, and Procedures

ALEP—Aircrew Laser Eye Protection

ANG—Air National Guard

AOR—Area of Responsibility

BOI—Basis of Issue

CBO—Chemical Biological Oxygen

CBRN—Chemical, Biological, Radiological and Nuclear

CBRNE—Chemical, Biological, Radiological, Nuclear and High-Yield Explosives

CCA—Contamination Control Area

CE—Civil Engineering

CEMP—Comprehensive Emergency Management Plan

CHA—Contact Hazard Area

CONOP—Concept of Operations

CW—Chemical Warfare

DOD—Department of Defense

ECP—Entry Control Point, Exit Control Point

EM—Installation Emergency Management

EMS—Electronic Maintenance System

EOC—Emergency Operations Center

ESF—Emergency Support Function

FERMS—Flight Equipment Records Management System

GCE—Ground Crew Ensemble

IAW—In Accordance With

IPE—Individual Protective Equipment

JPACE—Joint Protective Aircrew Chemical Ensemble

LMR—Land Mobile Radio

LOGDET—Logistics Detail

MAJCOM—Major Command

MDS—Mission Design Serials

MOPP—Mission-Oriented Protective Posture

NATO—North Atlantic Treaty Organization

NSN—National Stock Number

OPLAN—Operation Plan

RDS—Records Disposition Schedule

SCPE—Simplified Collective Protection Equipment

SCPS—Survivable Collective Protection System

STANAG—Standardization Agreement

TCPS—Transportable Collective Protection System

TFA—Toxic Free Area

TO—Technical Order

UCC—Unit Control Center

USAF—United States Air Force

UTC—Unit Type Code

VHA—Vapor Hazard Area

Terms

Aircrew Contamination Control Area (ACCA)—A self-sustaining aircrew only contamination mitigation control area that minimizes cross contamination to aircrew and is staffed by certified AFE personnel.

Aircrew Flight Equipment (AFE)—AFE encompasses all equipment that was formerly known as aircrew life support equipment, is part of the 412A life support system, or as designated by NGB/A3OS.

ACBRN Equipment—Individually fitted aircrew unique CBRN protective equipment for the sole purpose of protecting operators who fly into and out of a CBRN hazard/contaminated environment.

Aircrew Eye/Respiratory Protection (AERP) Equipment—AERP equipment is designed to protect the aircrew member from CBRN exposure to the head, neck, face, eyes, and respiratory tract. This equipment is designed to provide protection without imposing operational or physiological burdens, degrading mission capability, or combat effectiveness.

Bare Base—Bare base systems are designed to provide minimal essential facilities, operational support equipment, and runway, taxiway, and parking areas. Units using this system are expected to deploy with mobility equipment and spares peculiar to their operation in sufficient quantities to allow self-support until resupply is established.

Bug Out Kit—A “bug out” kit is an evacuation kit with enough assets to sustain operations should personnel be forced to evacuate/relocate at a moment’s notice.

Command and Control (C2)—The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. C2 functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission.

Contamination Control Area (CCA)—Area managed by Emergency Management (EM) Flight to safely process ground personnel

D-1 Bag—One complete ACBRN ensemble carried by aircrew when deploying to CBRN threat environment.

D-Bag—Full complement of ACBRN equipment BOI. Includes the contents of the D-1 bag, plus any remaining BOI items.

Field Gear—Individual equipment supporting operations in CBRN environments. It includes a web belt, canteen with CBRN water canteen cap, and helmet. When issued, it includes additional field gear, such as personal body armor and load carrying equipment and accessories.

Ground Crew Ensemble—Duty uniform, over garment (JSLIST or equivalent), overboots, cotton inserts, rubber gloves, M295 kits, M8 paper, M9 Tape, and gas mask.

Logistics Detail (LOGDET)—The LOGDET defines standard passenger and equipment movement requirements for each UTC. Equipment detail is provided at the NSN level; lists all material in a UTC, prioritizes increment movement, provides increment characteristics, and is the standard equipment listing for planning.

Miosis—Medical term for constriction of the pupil. It is seen in a variety of medical conditions, and can be caused by certain drugs and chemicals. Extreme Miosis is commonly called pinpoint pupils.

Mission Oriented Protective Posture (MOPP)—A flexible system of protection against nuclear, biological, and chemical contamination. This posture requires personnel to wear only that protective clothing and MOPP equipment appropriate to the threat level, work rate imposed by the mission, temperature, and humidity.

Operation Plan (OPLAN)—A plan for one or more operations that deployed units carry out simultaneously or in a series of connected stages. A detailed transportation-feasible flow of resources into the theater to support a CONOPS. Forces are selected and time-phased, support requirements are determined, and the strategic transportation flow is computer simulated. The plan's information, including combat and support units along with the equipment and supply support, is collected in the time-phased force and deployment data file.

Unit Type Code (UTC)—A five-character, alphanumeric code that uniquely identifies each type unit of the Armed Forces and specific force package of personnel and/or equipment.

Attachment 2

ACCA MANAGER ACTIONS

Table A2.1. ACCA Managers Actions (T-2).

ACCA MANAGERS COORDINATION ACTIONS			
1.	CE/EM	C/ W	POC
1.1.	Copy of the base map(s).		
1.2.	Base sectors/grids/TCPs been identified on the map(s).		
1.3.	CCA/ACCA locations in each sector/near each TCPs.		
1.4.	Coordinate for obtaining bleach solution and water.		
1.5.	Identify contaminated waste disposal site.		
1.6.	Call signs established for ACCA Manager and team members.		
1.7.	Coordinate additional equipment (e.g. sensing devices).		
1.8.	Coordinate w/9ALCW for possible additional manning as needed.		
1.9.	TFA area procedures established.		
1.10.	Limiting factors/needs during inclement weather operations.		
1.12.	Additional requirements for ACCA night operations.		
1.13.	Ensure electrical/generator power is available, as required.		
2.	2T1X1 Transportation (LRS)	C/ W	POC
2.1.	Transportation for aircrew to the TFA.		
2.2.	Transportation for aircrew to the ACCA.		
2.3.	Training on contamination mitigation within vehicle.		
3.	EOC/UCC	C/ W	POC
3.1.	Coordinate w/ EOC/UCC for ACCA post attack dispatch.		
3.2.	Provide call signs and location of ACCA team members.		
3.3.	Reporting requirement for AFES.		
3.4.	Communication plan for activation of ACCA post attack.		
4.	Medical Group	C/W	POC
4.1.	Acquire Atropine and 2 PAM injectors for use in the ACCA.		
4.2.	Transportation for aircrew with CRBN exposure or injuries.		
4.3.	Situational awareness of ACCA location and operations.		
5.	Maintenance Group	C/W	POC
5.1.	MX personnel are trained on overboot/overcape donning/doffing.		
5.2.	Personnel are trained on ACBRN equipment strap-in procedures.		
5.3.	Adequacy of overboots and overcapes supplies for operations.		
5.4.	Situational awareness of ACCA location and operations.		
6.	Plans and Programs	C/ W	POC
6.1.	Review base CEMP Plan 10-2 for AFE and ACCA requirements.		
6.2.	Review NATO or Joint Support Plans for CBRN operations.		

6.3.	Review any AOR CBRN CONOPS procedures.		
7.	Services Squadron	C/ W	POC
7.1.	Establish laundry service requirements as required.		
7.2.	Requirements for TFA operations coordinated with Services.		
8.	ACCA Equipment and Personnel	C/ W	POC
8.1	ACCA Manager recommended items:		
	• Backpack		
	• LMR for contact with EOC/UCC		
	• First Aid Kit		
	• Maps w/Sectors Grids and Transition Control Points plotted		
	• Keys for vehicle		
	• Flashlight		
	• Mask voice-emitters		
	• ACCA Managers Book		
8.2.	GCE is on hand to assume appropriate MOPP level.		
8.3.	Individually issued GCE's has been brought to ACCA.		
8.4.	ACCA and vehicles are covered IAW alarm condition.		
8.5.	If available, preposition additional ACCA to increase survivability		
8.6.	Additional assets are covered IAW alarm condition.		
9.	ACCA Set-up Procedures	C/ W	POC
9.1.	Ideally set up on hard surface and establish wind direction.		
9.2.	Set-up IAW established guidance and 45° into the wind.		
9.3.	Review requirements to ensure system will support processing.		
9.4.	Coordinate with attendants to restock supplies.		
9.5.	Brief actions to be taken during alarm conditions change.		
9.6.	Ensure shelters are in place for members during attacks.		
10.	AFE Technicians	C/ W	POC
10.1.	Are familiar with ACCA procedures as outlined in this manual.		
10.2.	Have inventoried ACCA assets and have properly set up stations.		
10.3.	Accomplish a dry run as a group to ensure process effectiveness.		
10.4.	Repack ACCA efficiently to support mobilization of assets.		

Attachment 3

AIRCREW CONTAMINATION MITIGATION CHECKLIST

Table A3.1. Aircrew Contamination Mitigation Checklist (T-2).

1.	Technician Training:	C/W
1.1	AFE personnel will establish an ACCA when directed.	
1.2	Aircrew will remain onboard until directed to the ACCA.	
1.3	Maintenance personnel will pat down the hatch area to mitigate contamination.	
1.4	Maintenance personnel will assist aircrew donning overcape/overboots.	
1.5	Process aircrew through ACCA IAW technical data/established procedures.	
1.6	Wastewater will be collected and disposed of IAW EM disposal plans.	
1.7	Removed flight equipment placed in sealed plastic bags to collect for disposal.	
1.8	Effectively assemble, issue and fit new flight equipment as soon as possible.	
1.9	Medical authorities have cleared aircrew processed through the ACCA.	